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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,382	04/18/2006	Ruihua Hu	USP3214C/SZ103-HRH	1876
30265 7590 02/24/2009 DAVID AND RAYMOND PATENT FIRM 108 N. YNEZ AVE., SUITE 128 MONTEREY PARK, CA 91754				
EXAMINER PHAM, MINH CHAU THI				
ART UNIT 1797		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/576,382

Applicant(s)

HU, RUIHUA

Examiner

MINH-CHAU T. PHAM

Art Unit

1797

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
- Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maus (6,534,021 B1), in view of Elbers (4,537,812).

Maus discloses a fluid filter (see 1 in Fig. 4) with a filter assembly (10) comprising a plurality of corrugated filtering plates (12) and a plurality of flat filtering plates (see 13 in Fig. 3) alternated into the corrugated filtering plates (see 10 in Fig. 3) to overlap with corrugated filtering plates with a Z shaped manner so as to form a filter stack (see 1 in Fig. 3) wherein each of the corrugated filtering plates is reserved with two side plain edges and remaining portion of the corrugated filter plate is prepared corrugated ridge, wherein each of the corrugated filter plates is respectively welded onto a pair of neighboring flat filtering plates at opposed edges (see col. 13, line 63 through col. 14, line 2) such that two sides of the filter stack are enclosed with Z shaped ending alternatively applied as fluid inlet and outlet in practice (see Figs. 1-3, col. 10, lines 41-63). Claims 10-16 differ from the disclosure of Maus in that the filter comprises an outer casing and the specific height and crest interval configuration of the filter stack. Elbers discloses a fluid filter (see 10 in Fig. 1) comprising an outer casing (12, 14, 16, 18), a filter assembly (10) received within the outer casing (12, 14, 16, 18) comprising a

plurality of corrugated filtering plates and a plurality of flat filtering plates alternated into the corrugated filtering plates to overlap with corrugated filtering plates to form a filter stack (see 10 in Fig. 1) wherein each of the corrugated filtering plates is reserved with two side plain edges and remaining portion of the corrugated filter plate is prepared corrugated ridge, wherein each of the corrugated filter plates is respectively welded onto a pair of neighboring flat filtering plates at opposed edges such that two sides of the filter stack are enclosed with ending alternatively applied as fluid inlet and outlet in practice. Elbers further discloses the height or amplitude of the filtering formations is in order of 0.03 to 0.04 inches and the crest interval not more than about 10 microinches, preferably in the range of 4 to 8 microinches (see Abstract, col. 2, lines 61-68, col. 3, lines 27-46). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the specific dimension of height and crest interval as taught by Elbers in the filtering apparatus of Maus to promote planar configuration resulting in lower pressure drop across the filter media while maintaining the same efficiency and flow rate.

Response to Amendment

Applicant's arguments filed on December 12, 2008 have been fully considered but they are not persuasive.

Applicant argues that the cited prior art "Maus does not disclose the corrugated filtering plates formed into a filter stack with height of each layer in the range between 2-10 mm and a crest interval between the range 4-20 mm". The Examiner still maintains Maus as the primary reference under the 103(a) rejections of the claims to show:

Maus discloses a fluid filter (see 1 in Fig. 4) with a filter assembly (10) comprising a plurality of corrugated filtering plates (12) and a plurality of flat filtering plates (see 13 in Fig. 3) alternated into the corrugated filtering plates (see 10 in Fig. 3) to overlap with corrugated filtering plates with a Z shaped manner so as to form a filter stack (see 1 in Fig. 3) wherein each of the corrugated filtering plates is reserved with two side plain edges and remaining portion of the corrugated filter plate is prepared corrugated ridge, wherein each of the corrugated filter plates is respectively welded onto a pair of neighboring flat filtering plates at opposed edges (see col. 13, line 63 through col. 14, line 2) such that two sides of the filter stack are enclosed with Z shaped ending alternatively applied as fluid inlet and outlet in practice (see Figs. 1-3, col. 10, lines 41-63), as claimed.

The Examiner newly introduces Elbers (4,537,812) as the secondary reference in combination with Maus under the 103(a) rejection to show:

Elbers discloses a fluid filter (see 10 in Fig. 1) comprising an outer casing (12, 14, 16, 18), a filter assembly (10) received within the outer casing (12, 14, 16, 18) comprising a plurality of corrugated filtering plates and a plurality of flat filtering plates alternated into the corrugated filtering plates to overlap with corrugated filtering plates to form a filter stack (see 10 in Fig. 1) wherein each of the corrugated filtering plates is reserved with two side plain edges and remaining portion of the corrugated filter plate is prepared corrugated ridge, wherein each of the corrugated filter plates is respectively welded onto a pair of neighboring flat filtering plates at opposed edges such that two sides of the filter stack are enclosed with ending alternatively applied as fluid inlet and

outlet in practice, as claimed. Elbers further discloses the height or amplitude of the filtering formations is in order of 0.03 to 0.04 inches and the crest interval not more than about 10 microinches, preferably in the range of 4 to 8 microinches (see Abstract, col. 2, lines 61-68, col. 3, lines 27-46), as claimed. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the specific dimension of height and crest interval as taught by Elbers in the filtering apparatus of Maus to promote planar configuration resulting in lower pressure drop across the filter media while maintaining the same efficiency and flow rate.

Applicant's arguments with respect to claims 10-16 have been thoroughly considered but are moot in view of the new ground(s) of rejection, as discussed above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH-CHAU T. PHAM whose telephone number is (571)272-1163. The examiner can normally be reached on Mon/Tues/Thur/Fri 7:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Minh-Chau T. Pham/
Examiner, Art Unit 1797
February 17, 2009